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Journal of the Society of Arts.

FRIDAY, FEBRUARY 14, 1868.

Announcements by the Council.

ARTISANS' REPORTS ON THE PARIS EXHIBITION.

The Reports of the Artisans selected by the Council to visit the Paris Exhibition are now ready, and may be had of the Society's publishers, Messrs. Bell and Daldy, York-street, Covent-garden. One volume; demy 8vo., 732 pages, price 2s. 6d. in boards, or 3s. 6d. in cloth. The volume contains reports, by upwards of eighty artisans, upon the principal industries represented in the Exhibition, as well as special reports on the condition and habits of the French working classes.

ORDINARY MEETINGS.

Wednesday evenings, at Eight o'Clock:—

FEBRUARY 19.—"On the Supply of Animal Food to Britain, and the Means Proposed for Increasing it." By WENTWORTH LASCELLES SCOTT, Esq., F.C.S.

FEBRUARY 26.—"On a Daily Mail Route to India." By HYDE CLARKE, Esq., D.C.L.

MARCH 4.—"A Workman's Views on Technical Education." By Mr. JOHN RANDALL, one of the Artisan-Reporters on the Paris Exhibition.

SUBSCRIPTIONS.

The Christmas subscriptions are due, and should be forwarded by cheque or Post-office order, crossed "Coutts and Co.," and made payable to Mr. Samuel Thomas Davenport, Financial Officer.

Proceedings of the Society.

CANTOR LECTURES.

The fourth and concluding lecture of Dr. Letheby's course "On Food" was delivered on Monday evening, the 10th inst. A full report of these lectures will be given in the *Journal* during the vacation.

TENTH ORDINARY MEETING.

Wednesday, February 12th, 1868; WILLIAM HAWES, Esq., F.G.S., Chairman of the Council, in the Chair,

The following candidates were proposed for election as members of the Society:—

Dickinson, John, 12, Haymarket, S.W.

Griffith, George, Woodside, Harrow.

Mathew, E. W., Wern, Carnarvon.

Wilkins, John, 48, Hungerford-road, N., and Took's-court, E.C.

The following candidates were balloted for, and duly elected members of the Society:—

Allen, J. H., 2, East India-avenue, E.C.

Clarke, David, Mayor of Macclesfield.

Clarke, George W., North Cheshire Chamber of Agriculture, Macclesfield.

Davenport, George, 45, Ludgate-hill, E.C.

Fitzwilliam, W. S., 28, Ovington-square, S.W.

Gourley, E. T., Mayor of Sunderland.

Van Abbott, G., 5, Princes-street, Cavendish-square, W.

The Secretary read the—

REPORT OF THE JUDGES ON THE ART-WORKMANSHIP COMPETITION, 1868.

It would not have been unnatural if, with the great demands made upon their time and energies by the preparations for the Paris Exhibition, the class of art-workmen who have heretofore taken part in the Society's competitions should have abstained from sending in works on the present occasion. Such, however, has not been the case, for, with the exception of some half-dozen objects which it would have been well if the officers of the Society could have had some power of summarily excluding from exhibition, the numerous specimens of art-workmanship which have been sent in for this year's competition for the Society's prizes to art-workmen display much energy on the part of the competitors, and an average high order of merit.

Indications were given in last year's competition of a power and disposition on the part of the competitors to execute meritorious works, other than those in accordance with prescribed designs; and the Society, consequently, extended its invitations in that direction. The result has, however, scarcely realised expectation, since, with few exceptions, the works wrought in accordance with prescribed designs are in all respects superior to those in which the workman has followed his own inspiration.

This circumstance points forcibly to the weak side in the present condition of the training, or rather want of training, of the art-workman. His knowledge of the functions, capabilities, and right application of the processes he employs with so much dexterity, is greatly in advance of his taste and knowledge of the principles of design. His head does not keep pace with his hands. The addition of a small amount of knowledge of the elementary principles of the theory of design would in many cases have prevented the considerable waste of ingenuity and labour shown in many of the subjects which have not followed any prescribed design.

To this there occur two notable exceptions. The one case is that of No. 68, a female head, "Summer," by Mr. Mark Rogers, and the other a dessert service, in the majolica style, designed and painted by Miss L. L. Hawkins. The former is a small work, of very great merit, carved by the practised artist whose works have already received the utmost recognition and commendation at our hands. On this account we have not again awarded him one of the prizes offered specially in the class of wood-carving, but as the work combines excellence of execution with taste, and that knowledge of the principles of design in which at present we think the British workmen are deficient, we have thought it right to award to him the prize arising from the fund placed at our disposal from the proceeds of the North London Industrial Exhibition, as a recognition of those merits.

In the case of Miss Hawkins's majolica service, the specimens are of imposing extent, and have involved the devotion of much time, energy, and labour to their elaboration. The result, however, scarcely corresponds with the sacrifices made to attain it, since the unhappy tone of colour which predominates in the ornamentation greatly mars the agreeable effect of the whole. So far as a competition such as the present is concerned, a single specimen, really beautiful, would have better exhibited the obviously rare capabilities of the artist, than the

large quantity she has produced with so much apparent facility. We can only hope that Miss Hawkins may be induced, on another occasion, to forward a careful specimen of her talent, painted in a more satisfactory emulation of the masterpieces of Renaissance earthenware at their best period both as to taste in design and skill in execution.

Upon the whole, the most satisfactory works to which we have awarded prizes in this division have been contributed by Mr. Brangan and Mr. Dujardin; the former, in a good average style of wood-carving, manifests the possession of considerable taste as well as dexterity; the latter, both in wood and plaster, shows specimens of flower carving of peculiar tenderness and delicacy of handling.

Mr. Leach's frieze (No. 89), from "A Midsummer Night's Dream," is very clever; and there is a very agreeable naïveté in Mr. Godard's "Girl's Head," carved in pear-tree (No. 70).

Of the works sent in accordance with the prescribed designs, the most uniform excellence is shown in the various processes of metal working. Mr. Dufour's *repoussé* work is excellent, as is Mr. Hatfield's (senior) chasing of the Virgin and Child. In the last-mentioned specimen we recognised an element not often to be met with in these competitions—the handicraft was kept in due subordination, and not suffered to divert the spectator's attention from the general scope and artistic purpose of the model. Too often in such objects the chasing of an angel's wing is made more telling than the angel's head; or the flowers trodden on by an amorino's foot may have had infinitely more pains bestowed upon them than has been given to the definition of the foot itself. So the major is often, through the art-workman's egotism, made to hide its head before the minor; but of this solecism Mr. Hatfield, sen., has steered clear with most commendable taste.

Mr. Fidler's marble carving is very satisfactory, since it shows that the sculptor can not only execute but design. His re-arrangement of the subject given, so as to adapt it to fill a lunette instead of a frieze, has been skilfully managed, and, in all the slight changes and additions involved through the re-arrangement, he has well maintained the spirit as well as the letter of his pattern.

The stone and wood carving is of good average quality, but calls for no special remark.

In the pierced work in metal—"ornament after a missal cover"—Mr. A. E. Milward in silver, and Mr. H. J. Hatfield, jun., in bronze, have attained rare excellence. Mr. E. Milward has made a good wrought brass knocker, while Mr. W. Sendall's, in iron, is first-rate.

We were glad to recognise the perfect success with which, in glass-blowing, Mr. Joseph Leicester had reproduced the tazza from South Kensington. Mr. Oppitz's glass engraving, and Mr. Genth's binding (especially the specimen in morocco), were excellent.

In the application of painting to industry, the specimens of figure-painting on porcelain by Mr. E. Saunders and Mr. W. J. W. Nunn, and of ornament painting by Mr. Fisher and Mr. Slater, were better than usual. In the class of decorative painting, however, with the exception of the *grisaille* reproduction, after a picture-frame in the South Kensington Museum, the arabesques contributed furnish a very inadequate idea of even the common run of good trade work in decorative painting, the colouring in all cases being inharmonious, and the style of handling laboured and mechanical.

In the same way, the competition for the prizes for illumination was not what, in these days, when almost every weekly publication is overflowing with clever illustrations, we have a right to expect. There was a total absence of life and spirit in the specimens sent, the best rising only to about the level of neatness.

The die-sinking and wall mosaics were not "up to the mark," but the engraving on ivory, by G. Berry, was very good, and shows something better than much we have seen upon pretentious specimens of furniture, which

failed only to attain great excellence through the feebleness and occasional scratchiness of the engraving of the ivories with which they had been inlaid.

In conclusion, we beg to offer the following suggestions, if not for adoption, at least for discussion:—

Firstly, we think the time has arrived when animation might be given to future competitions, by a considerable change of programme. Especial prominence might be given to evidence of ability in processes not commonly practised in this country,—such as several of those involved in the manufacture of Venetian glass; in the execution of enamelling, both upon earthenware and metal bases; in the application of painting and lacquering, as in Japanese and Cashmerian work; in Damascening, both after the Milanese and Oriental systems, &c. From such efforts new branches of national industry might possibly arise; and, at any rate, working men would be induced to exercise their ingenuity and to acquire that pliability or general aptitude in which, as compared with the French art workman, the English artificer is now somewhat deficient.

Secondly, the apportionment of the money prizes requires revision, so as to bring the rewards offered into better proportion to the labour or outlay risked in the different sections by the workmen entering upon the competition; regard being, of course, had to the special branches of art industry in which temporary stimulants might seem most needed.

Thirdly, prizes might be offered for evidences of proficiency in two or three branches of industry not yet included in the Society's programme, as stained glass, jewellery, brass-rule cutting, the application of turning to artistic wood or metal work, &c. Some such changes, and the withdrawal of all hackneyed models, would probably tend to relieve the apparent monotony of the Society's competitions; and, after a year or two's interval, the leading features of the present programme might be reverted to with a fresh and lively interest on the part both of the art-workmen and of the public.

(Signed)

RICHARD REDGRAVE.
M. DIGBY WYATT.

List of specimens sent in competition, with the Prizes awarded:—

FIRST DIVISION.

WORKS SENT IN ACCORDANCE WITH THE PRESCRIBED DESIGNS.

1. CARVING IN STONE.—After a frieze for a chimney-piece by *Donatello*. Price £15. By Alexander J. Earp, 2, Ebenezer-cottage, Kennington-park, S.
2. Ditto. Price £10. By H. Coles, 16, Alma-terrace, Fentiman-road, Lambeth, S. (Prize of £5).
3. CARVING IN MARBLE.—After the same design, by John B. Fidler, 61, Arundel-street, Sheffield. (Prize of £15).
4. CARVING IN STONE.—After a chair-back in the South Kensington Museum. Price £10. By W. H. Barrett, 14, Alma-terrace, Fentiman-road, Lambeth, S. (Prize of £7 10s.).
5. Ditto, by "Troy."
6. CARVING IN OAK.—Panel, by C. H. Lino, 41, Prince of Wales-crescent, Kentish-town, N.W. (Prize of £7 10s.).
7. Ditto, panel enlarged to suit for pilaster of chimney-piece. Price £12. By W. H. Baylis, 27a, Riding house-street, W. (Prize of £7 10s.).
8. Ditto, by Thomas E. Mayle, 33, James-street, Stockwell, S.
9. REPOUSSÉ WORK IN METAL.—After the Martelli mirror case in the South Kensington Museum. Price £20. By A. Dufour, 36, Cleveland-street, Fitzroy-square, W. (Prize of £10).

10. Ditto, after a panel, in low relief, of the "Virgin and Child," in the South Kensington Museum. Price £25. By G. Page, 39, Northampton-road, Clerkenwell, E.C.
 11. Ditto. Price £15. By S. S. S.
 12. Ditto. Price £14 14s. By "Bona Fide," Durham-cottage, Lordship-lane, Wood-green, N. (Prize of £5).
 13. Ditto, after a tazza in silver. Price £6. By Alfred Page, 29, Myddelton-street, E.C. (Prize of £3).
 14. HAMMERED WORK IN BRASS.—After a knocker in wrought iron in the South Kensington Museum. By E. Millward, 35, Little Clarendon-street, Clarendon-square, N.W. (Prize of £5).
 15. Ditto, by "M. C. S."
 16. Ditto, in iron. Price £3. By W. Sendall, High-street, Wisbech. (Prize of £7 10s.).
 17. CHASING IN BRONZE.—After a relieve in marble "Virgin and Child." Price £15. By S. Beresford, 189, Oxford-street, Stepney, E. (Prize of £7 10s.).
 18. Ditto. Price £20. By T. Nichols, 4, Everilda-street, Hemingford-road, N.
 19. Ditto. Price £16 16s. By H. C. Hatfield, sen., 46, Bolsover-street, Euston-road, W. (Prize of £10).
 20. Ditto, ornament after a missal cover. Price £18 18s. By H. J. Hatfield, jun., 46, Bolsover-street, Euston-road, W. (Prize of £10).
 21. Ditto, in silver, after the same design, by A. E. Millward, 8, New Compton-street, Soho, W.C. (Prize of £10).
 22. ENGRAVING ON METAL.—After an arabesque by Lucas Van Leyden, by G. W. Hindley, apprentice at Messrs. Garrard and Co., 29, Pantion-street, Haymarket, S.W. (Prize of £2, being a portion of the Goldsmith's Company's prize).
 23. Ditto on ivory, after the same design, by G. Berry, 31, Brewer-street, Golden-square, W. (Prize of £4).
 24. PAINTING ON PORCELAIN.—After a drawing by *Raphael*. Price £4. By Edwin Saunders, 8, Martha-street, Cambridge-heath, Hackney, N.E. (Prize of £5).
 25. Ditto. Price £5. By Walter J. W. Nunn, 10, Grafton-street, Globe-lane, Mile-end, E. (Prize of £3).
 26. Ditto. Price £2 10s. By "J. E."
 27. Ditto. Price £3 3s. By W. Slater, Field-place, Stoke-upon-Trent.
 28. Ditto, by Thomas Stanway, 74, Lower Russell-street, Hanley, Staffordshire Potteries. (Prize of £2).
 29. Ditto, by Joseph B. Evans, South-street, Mount-pleasant, Fenton, Stoke-on-Trent.
 30. Ditto. Price £5 5s. By W. P. Rhodes, Liverpool-road, Newcastle-under-Lyne.
 31. Ditto. Price £3 3s. By John Willshaw, 27, Bow-street, Newcastle-under-Lyne.
 32. Ditto, ORNAMENT, by Alexander Fisher, 5, Clyde-street, Stoke-on-Trent. (Prize of £3).
 33. Ditto. Price £6. By W. H. Slater, James-street, London-road, Stoke-on-Trent. (Prize of £3).
 34. DECORATIVE PAINTING.—After an ornament by *Aldegrevier*. Price £7 10s. By Charles Pfander, 28, Bayham-street, Camden-town, N.W.
 35. Ditto. Price £5 5s. By John Slater, Field-place, Stoke-on-Trent.
 36. Ditto. Price £5. By W. J. Hutchins, Gold-tops, Newport, Monmouthshire.
 37. Ditto, after a picture-frame in the South Kensington Museum. Price £23. By Charles Pfander, 28, Bayham-street, Camden-town, N.W. (Prize of £7 10s.).
 38. ENGRAVING ON GLASS.—Executed on a claret jug, after an arabesque by Lucas Van Leyden, by P. Oppitz, 76, Stamford-street, Blackfriars, S. Price £50. Exhibited by Messrs. W. T. Copeland and Sons, 160, New Bond-street, W. (Prize of £10 to P. Oppitz.)
 39. WALL MOSAICS.—After a female head in *Raphael's* cartoon of the "Beautiful Gate," by Samuel Cooper, 2, Waterford-terrace north, Fulham, S.W.
 40. DIE-SINKING.—After a Wedgwood medallion in the South Kensington Museum, by W. A. Walker, 5, Tysoc-street, Clerkenwell, W.C. (unfinished).
 41. GLASS BLOWING.—After an original in the South Kensington Museum, by Joseph Leicester, 34, Tenison-street, York-road, Lambeth, S. (Prize of £7 10s.).
 42. BOOKBINDING.—"De imitatione Christi," bound in calf, after a specimen in the South Kensington Museum. Price £3 10s. By Louis Genth, 90, High Holborn, W.C. (Highly commended, but ineligible for a prize, the producer having received an award in the same class in a former competition).
 43. Ditto, Mosaic, bound in morocco. Price £3 10s. By Louis Genth, 90, High Holborn, W.C. (See note to 42).
 44. ILLUMINATION.—After a specimen in the South Kensington Museum, by "T. H. R."
 45. Ditto. Price £5. By Miss Mary R. David, 4, Anderson-street, Chelsea, S.W. (Prize of £1).
 46. Ditto. Price £5 10s. By Charles Pfander, 28, Bayham-street, Camden-town, N.W. (Prize of £2).
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- SUBJECTS SENT WITHOUT PRESCRIBED DESIGNS.
47. CAP, CARVED IN CAEN STONE. By W. Aumonier, 173, Marylebone-road, N.W.
 48. Ditto, by "Erna."
 49. REPOUSSÉ WORK IN METAL, after Wyon's medal for the North London Exhibition of 1866. Price £10. By James Gwillim, 19, Sidney-square, Mile-end, E.
 50. Ditto, after Wyon's medal of St. George. Price £10 10s. By F. S. Briault, 5, Southampton-street, Pentonville, N.
 51. CHASING IN METAL.—Emblem of bread and wine. Price £4. Modelled and chased by C. Jacquard, 1, St. George's-road, New Kent-road, S.E. (Prize of £1).
 52. HAMMERED WORK IN METAL.—Mirror frame. Price £5 5s. By Thomas Bush, 36, Hall-street, City-road, E.C.
 53. Ditto, a Ewer. Price £5 5s. By the above.
 54. Ditto, series of specimens. By T. Winstanley, 22, New Compton-street, W.C. (Prize of £3).
 55. MODELLING IN PLASTER.—Evangelical emblems. By J. Meiklejohn, 58, Sussex-street, Pimlico, S.W. (Prize of £3).
 56. Ditto, panel of spring flowers. Price £10. Designed and modelled by E. Dujardin, 46, Camberwell-grove, S. (Prize of £5).
 57. MODELLING IN CLAY.—Sketches from *Punch and Fun*. Price £4. By J. W. Bentley, 22, Sherwood-street, Golden-square, W.
 58. Do. A Tazza, intended for pottery to be decorated as Palissy Ware. Copy of work produced by Henry Brownsword, Salem-street, Etruria, Staffordshire Potteries, for Messrs. Wedgwood and Sons.
 59. ILLUMINATION.—Price £3 3s. By Miss H. Jupp, 3, Bellevue-terrace, Clevedon, Somerset.

60. PAINTING ON PORCELAIN.—Specimen of Heraldic Painting. By Edward Mayer, Lyndhurst-street, Burslem, Staffordshire.
61. Ditto. Dessert Service, Majolica style. Price 100 guineas. Designed and painted by Miss L. Leila Hawkins, Belvedere-road, Upper Norwood, S. Twelve plates, subject: the Signs of the Zodiac; centre-piece, Summer; two dishes, Spring and Winter; four dishes (The Muses), Memory, Music, Astronomy, and Eloquence; rose-water flagon and bowl, Clouds and Rain.
62. ENGRAVING ON GLASS.—Jug and two Goblets. Price £30. Antique shape. Heraldic designs, surrounded with arabesque borders. Designed and arranged by Mr. Jones, in the employ of Messrs. Copeland and Sons, and engraved by Paul Oppitz, 76, Stamford-street, Blackfriars, S. Exhibited by Messrs. W. T. Copeland and Sons, 160, New Bond-street, W.

SECOND DIVISION.

WOOD CARVING WITHOUT PRESCRIBED DESIGNS.

(a.) *Human figure in the round, in alto or in bas-relief. Animals or natural foliage may be used as accessories.* 1st. prize of £25 and the Society's Silver Medal. 2nd prize of £15. 3rd prize of £10.

63. An Allegorical Clock. Price, without works, £38. By "Tempus Fugit."
64. "Neptune;" carving in walnut-wood. Price £25. By Charles Liddle, 5, Goding-street, Vauxhall, S.
65. Female Figure, in carved panel of walnut-wood. Price £10. By Samuel Moutrie, 219, Stanhope-street, Hampstead-road, N.W. (Prize of £3).
66. "The Seasons;" Four Medallions, in peartree-wood. Price £8 8s. the set. Designed and carved by W. Aumonier, 173, Marylebone-road, W.
67. "Daphne." By H. W. McCarthy, 106, Brook-street, Kennington-road, Lambeth, S.
68. "Summer;" Female Head. Price £15 15s. (when finished). By Mark Rogers, 111, Tachbrook-street, Pimlico, S.W. (Highly commended, but ineligible for a prize in this class, the producer having received an award in the same class in a former competition). (The "North London Exhibition" Prize.*)
69. Boy's Head, carved in a Bracket. By E. Glancy, 113, Manor-street, Chelsea, S.W.
70. Girl's Head, carved in peartree. Price £4. By H. Godard, 13, Upper Marylebone-street, W. (Prize of £2).
71. Medallion and Flowers. Designed and carved by E. Dujardin, 46, Camberwell-grove, S. (Prize of £2).
72. "The Nativity of Cain." Price, when finished, £18. Designed and modelled by S. Shadaway, carved by J. S. Shadaway, jun., 31, Walton-street, Brompton, S.W.
73. Human head. Specimen of carving in different stages, for the use of amateurs. By W. H. Holmes, 101, Dean-street, W.
74. Child's head. By William Davison, 20, Marlborough-road, Chelsea, S.W.

(b.) *Animal or still-life. Fruit, flowers, or natural foliage may be used as accessories.* 1st prize of £10. 2nd prize of £7 10s. 3rd prize of £5.

75. A Dead Lark. Price £8. By John Wallace, 26, Adam-street East, Portman-square, W. (Prize of £2).

(c.) *Natural foliage, fruit, or flowers, or conventional ornament, in which grotesque figures or animals may form accessories, preference being given where the work is of an applied character for ordinary decorative purposes, as representing commercial value.* 1st prize of £10. 2nd prize of £7 10s. 3rd prize of £5.

76. Oval Frame in lime wood. Price £3 15s. By W. M. Holmes, 101, Dean-street, W.
77. Mahogany Frame. Price £7 7s. By G. Box, 15, William-street, Regent's-park, N.W.
78. Scoop for a Tea-caddy, carved in box wood. Price £2. By J. Manhood, 11, Effingham-street, Pimlico, S.W.
79. Box. Carved by Philip Davison, 8, Randall-street, Hyde-grove, Battersea, S.W.
80. Jewel Casket. By G. Rumford, 19, Eccleston-street East, Pimlico, S.W. (Prize of £2).
81. Portrait Frame. Price £8. By G. H. Bull, 16, Millman-mews, Millman-street, Foundling, W.C. (Prize of £1).
82. Oak Bracket. Price £8. By the above.
83. Panel of Flowers Carved in Satin-wood. By Edward Glancy, 113, Manor-street, Chelsea, S.W. (Prize of £1.)
84. Fruit and Flowers, after the style of Gibbons. Price £7 7s. Carved in the solid by R. A. Brangan, 54, Foley-street, Portland-place, W. Gilt by R. Farrell.
85. Panels, representing "Spring, Summer, and Autumn" ("Winter" not ready for exhibition). Price £42 the set of four, or can be sold separate at £10 10s. each. Designed and carved by R. A. Brangan, 54, Foley-street, Portland-place, W. (Prize of £5).
86. Panel in Oak, intended for centre frieze Ornament. Flemish renaissance. Price £3. Designed and carved by "E. J. G."
87. Oak Clock Cases (unfinished). Price £6 6s. Designed and carved by "E. J. G."
88. Panel for Cabinet Door. By G. H. Barnsdale, 2, Queen-street, Peterborough. (Prize of £1).
89. Part of a Frieze; subject from "Midsummer Night's Dream." By J. M. Leach, 23, Effingham-street, Pimlico, S.W. (Prize of £3).
90. Clock-case, carved in oak; Elizabethan style. Price £20. By "W. H. B."
91. Gothic Panel in oak, for pulpit or reading-desk. Price £15. Designed and carved by H. G. Price, 36, London-street, Fitzroy-square, W. (Prize of £2 for the three works, Nos. 91-3.)
92. Ornamental Panel in mahogany, carved for casting in metal. Price £10. By the above.
93. Two Panels in oak; natural foliage. Price £9 the pair. By the above.
94. Panel in Walnut-wood for a round-end sideboard. By J. Sparrow, 76, Vauxhall-bridge-road, S. (Prize of £2).

DISCUSSION.

The CHAIRMAN said he would now ask his friend, Mr. Digby Wyatt, one of the adjudicators of the prizes, to express his opinion upon the progress that had been made in these exhibitions during the time that they had been instituted by the Society. He had no doubt that would elicit observations from many persons whom he saw present.

Mr. M. DIGBY WYATT expressed his regret that on the last two or three occasions when these meetings had been held his other engagements had unavoidably prevented him from being present. That absence had arisen from no lack of interest on his part in the undertaking which the Society had so ably carried out to the benefit of the working classes and of art generally. He had endeavoured on all occasions in studying the works sent in (and he trusted thereby learning something from them), to allot the prizes in a perfectly impartial spirit, but human judgment was not infallible, and, of course, he was liable to error. He confessed, when

* This Prize consists of the interest of £167 7s. 3d. Consols, invested in the name of the Society of Arts, to be awarded by the Council "for the best specimen of skilled workmanship" at the Society's Exhibition.

he remembered the scanty display when these competitions were first instituted, and the comparative poorness of the technical dexterity then shown, he recognized a most visible and marked improvement in the exhibition now before them. In addressing this meeting he addressed men who had many of them shown at the late Paris Exhibition that England was not deficient, and scarcely, if at all, behindhand, in the power to produce works of the highest order of merit. In that respect they had done honour to their country, and to the Society which had assisted in developing their capabilities. In nearly every department of industry, those who had carefully studied the French Exhibition must have seen that England showed a manifest advance. He thought one main weakness in the art-workman of the present day was a want of knowledge of the best mode of applying his own powers. He thought very often the result of labour would be tenfold better—even if the labour were somewhat inferior—if the workman understood the best way of putting his strength forward; just as a strong man often tugged at a load which a weaker man would carry with no great strain if he knew how best to apply his strength. It was not in bringing his branch of labour to mere mechanical perfection that the workman was to succeed, but in elevating it from the mechanical function to the creative function; and as he gained the power of creation he promoted his own gratification and advanced the art he practised. He (Mr. Wyatt) thought in these days, when so much was said about technical education, the education they most needed was of an elementary kind, so as to have the means within themselves of acquiring higher knowledge. Only a small portion of mankind were able to see with their minds; there were many who saw with the eyes, but they did not enjoy the true faculty of vision, because no corresponding chord was awakened in their brains. The true visual power was when they saw with the intellect as well as with the eyes. The man who had learnt the meaning of words thoroughly was able to use them with exactness and with effect; just so with labour; they had only to learn the use and scope of their labour to make it tell as they made their words tell. The moment they had acquired the power of language, they had opened to them almost all the mysteries which the most advanced practisers of their art had before them. They could buy at a book stall elementary treatises on design, or form, or physical knowledge, or philosophy at a small cost; and the moment they had a thorough command of language they had within their own grasp the means of their own improvement; and in the measure of their ability to use those simple powers which he urged them to acquire, in that measure would they advance themselves; and they would need scarcely any technical education if they used those powers aright. They were apt to regard technical education as a means of producing cheap labour for the master, rather than elevating the working man as an intelligent and thinking being. If a man awakened to the necessity of learning, and if he once got over the *pons asinorum*, the stumbling-block of the incapacity to properly read and properly learn—if he got over that impediment—he could select for himself that knowledge which would be most useful to him. He was, he thought, justified in this belief by the very excellent reports on the Paris Exhibition, emanating from members of the artizan class, in the volume lately produced under the auspices of this Society. The Society had been twice blessed in what it had given and received; for if it had assisted a certain number of working men to see the marvels of the French Exhibition with benefit to themselves, the mass of information given in return was such that it would repay the Society ten-fold. If it had been his duty at times to attempt to teach, where he ought perhaps to have learnt, he acknowledged that from those pages, and from contact with educated and talented workmen, he had learnt much. It gave him much pleasure to see the advances they had made, and he hoped for years to come to see corresponding progress.

Mr. G. PAGE (metal-worker) begged to be informed on what grounds the prize had been given to the *repoussé* work in metal, after the Martelli mirror case.

Mr. DIGBY WYATT replied that he could not enter into a personal discussion with persons interested in the award of the prizes. The awards had been made to what were considered to be the best productions in each branch of art-industry.

Mr. COPELAND thought it due to Mr. Page that a reply should be given by Mr. Digby Wyatt to the inquiry he had made.

Mr. DIGBY WYATT said, the reason the award was made to that work was simply that, in the opinion of the judges, it was the best.

Mr. PHILIP PALMER, in reference to the suggestion of the judges, in the last paragraph of their report, that a prize should be offered for stained glass, remarked that he was rather surprised that Mr. Digby Wyatt, with his excellent knowledge of that branch of art, should have recommended a prize to be offered for it, because the chief merit of stained glass was really in the design, and it was impossible for anybody but a thorough artist to produce a good design for such work. It was known that stained glass went through a number of different processes, which occupied a considerable time, and involved elaborate appliances. Another point was, a large space would be required to exhibit the stained glass; indeed, for the due display of it a temporary building of iron would be necessary.

Mr. COPELAND recommended that more encouragement should be given to the production of designs, instead of adhering to the models emanating from South Kensington, and others with which the public were familiar. He thought if greater scope were given for originality of design, it would have a beneficial effect upon art-workmanship generally.

Mr. RASMUSSEN (silverworker) said there were several remarks in the report of the judges which deserved consideration in reference to extending the programme of prizes. As regarded the awards of the prizes, he might venture to say he quite concurred with the decision of the judges. He suggested that prizes should be offered especially to apprentices, so that a young man of 19 should not have to compete with workmen of far greater experience and skill than himself. He thought this would have a most beneficial effect.

Mr. PAGE said that if it was not intended in competitions of this kind to award the prize for two consecutive years to the same competitor, he thought this should be distinctly stated in the programme.

Mr. G. LOCK (wood-carver) said he thought it was not desirable to disqualify for prizes persons who had been successful competitors in previous years. He thought the principle was wrong, and opposed to the usual practice in such cases. Architects, sculptors, and painters were placed under no such prohibition, but were allowed to compete even if they had obtained prizes in the same exhibition in previous years. The object of the Society was to encourage the most proficient men in each class of work, and it ought to be proud to see that those who distinguished themselves in former years were able to hold their own in subsequent exhibitions, and rather than except them from the awards, they ought to be encouraged to go for higher prizes than they had yet obtained. This Society, in its earlier years, did great service to sculpture by the prizes it awarded to artists; and there could be no doubt it had often been the means of raising them to a higher position in their professions. He thought the prizes given generally in these art workmanship competitions were not of sufficient amount to induce the production of a high class of work. The prizes given in the department with which he was connected (wood carving) were so small as not to give much encouragement to the skilled workman. There were a number of prizes, of from £1 up to £5; and anyone acquainted with the position of wood-carvers in London, knew these were insignificant amounts to receive as rewards. He thought

if the Society encouraged the younger members of the trade, especially apprentices, by giving rewards for elementary productions, it would be a great advantage to them. At the same time, he believed higher prizes would stimulate the production of superior works to those which had been hitherto exhibited.

Mr. R. CONINGSBY said, while agreeing with the last speaker that the prizes in some of the classes were not of sufficient amount to stimulate the best workmen, yet, it was evident from the disappointment of one exhibitor, expressed this evening, that the prizes of the Society were sought after, and much valued. At the same time he did not think the matter should be regarded in a merely pecuniary light. It was too much the custom in the present day to value things by their £ s. d. value. A higher class of reward might be offered, but he did not think it ought to be in money, but in honour, as in the case of a statesman, or a warrior; if that were done, young men in the trade would feel more pride in being journeymen or workmen of high skill, than in being masters on their own account, because they would feel that the work so appreciated was produced by their own hands.

Mr. R. BAKER (wood carver) agreed to a great extent with the remarks of the last speaker, and also with much that had been said by Mr. Lock; but, personally, he had reason to be satisfied with the amount of the prizes, inasmuch as he had once been awarded £10 for a piece of work which was in itself worth only £4 or £5. He would venture to offer a suggestion to the Council, which he thought would be of some benefit. He imagined the main object of these competitions was to stimulate the production of a higher class of work in this country. In order to do that they should look to the wants of art workmen, and one of the greatest wants of the day was a better knowledge of the principles of the ornamentation of past times. He suggested that the society should offer, amongst other prizes, some relating to different styles of ornamentation—for, instance, for a bracket or a panel—one in the Italian style of the 16th century, another in the French style at one of the best periods, and another in the English style of the Elizabethan period. That would tend to concentrate the mind of the workman upon the style, and he would enter with more spirit into the details, instead of catching up bits of information here and there; and in endeavouring to understand the principles of these different styles he would be making real progress in his art. Another suggestion he would make was, that some good wood, in his opinion, result from introducing a few practical working men to assist the judges in making the awards, not that he doubted the ability and perfect fairness of the gentlemen who acted as the adjudicators, but because there were many little details connected with the execution of work which no one but a practical man would be likely to see. He thought the art-workmen would do well to form a club or guild amongst themselves, so that when any great work was to be executed, architects and others might know who the best workmen were, and where they were to be found. From his observations in Paris he was satisfied the art-workmen of this country did require a great deal of instruction and encouragement; but he asked them not to look for it from Government or even from the Society of Arts; but if they looked to themselves they would make England something worthy of herself, and would not be thrown into the shade by other nations.

Mr. GILLUM, as a worker in iron, agreed with the opinion expressed that the prizes in some departments were insignificant, more particularly in the class of smiths' work, which involved the expense of a forge.

Mr. HOLLIDAY supported the suggestion of separate prizes for competition by apprentices, as they stood little or no chance of success in the general competition.

Mr. BOTLY expressed his sense of the obligations which the Society was under to the gentlemen who had acted as judges in this competition. He urged upon the

Council the propriety of taking into their serious consideration the suggestions that had been made with regard to prizes for apprentices.

Mr. BLACKIE suggested that the awards should either consist of medals alone or be accompanied by them. When the awards consisted of money only there was no lasting memento of success in the competition; he believed the Society's medal would be much valued by the competitors. He thought there was no reasonable ground for complaint as to the small amounts of the prizes, more especially in the case in which the exhibitor received a prize of £10 for a piece of work he valued at only about £5. He remarked upon the absence from the programme of prizes for mechanical productions. England, he believed, would never be a great art country, but she owed her present position mainly to her manufactures and machinery; therefore, he thought mechanics ought not to be forgotten in the Society's programme of prizes.

Mr. DIGBY WYATT said he would address a few remarks upon the different matters which had been brought under discussion. In the first place he would say to Mr. Page that he introduced an apologetic remark with reference to the awards of the prizes, because, as he said, human judgment was fallible; and in excepting Mr. Page's work from the award it was done conscientiously, because the other work was considered more entitled to it. With regard to stained glass being introduced into the programme, that, as well as the other suggestions of the judges, was put forward, not for adoption necessarily, but rather to call the attention of the Council, by whom the programme of the competition was drawn up, to the matter. Mr. Palmer had remarked that one of the greatest difficulties with regard to stained-glass was the distinction that existed between the artist and the workman, inasmuch as it was designed by the artist and executed by the workman. He (Mr. Wyatt) felt that was the very point to which the energies of the Society should be directed: their great object was to obliterate this wide distinction between the artist and the workman. With regard to Mr. Palmer's objection, on the score of the size of the specimens, that would hardly hold good, inasmuch as he had seen as beautiful examples of Swiss stained glass in a small compass as could possibly be produced; and, though there might at first sight appear to be some difficulty on the part of the workman in getting the glass burnt, yet, with the master's permission for the use of his kiln, he imagined a very manageable specimen of stained glass might be produced to show the workman's ability. Mr. Copeland spoke of the advantage of encouraging original designs in workmanship. The report of last year mentioned that there was a tendency on the part of the workmen towards improvement in that respect. This year, however, the work was better in following the designs given; but the Society did not shut the door against original designs. Mr. Rasmussen corroborated the views of the judges as to the advantage of extending the programme, especially to some other branches of metal work in which the French excel. Those who noticed the productions, at the French Exhibition, of M. Christofle and M. Barbédienne, must have seen that the worker in silver plate was also a perfect enameller, and had produced works as perfect as anything that was done in China or Japan. With regard to prizes for apprentices, he thought the Society's object was not to teach youths, but to stimulate the production of perfect specimens of workmanship—whether done by boys or by old men was of no consequence. Mr. Page also made a remark with regard to the prize not being awarded to the same exhibitor a second year in the same class. Mr. Lock expressed an opinion that the same man should be allowed to compete for the same prize in succeeding years. That was a subject for the Council to consider, and on the next occasion no doubt there would be a clear understanding on that point. With regard to larger rewards, it was singular that in the class of smiths' work, with which the speaker who referred to this subject was specially

connected, the prize awarded this year was no less than £7 10s., while the price of the article was only £3. Mr. Coningsby, who urged that Mr. Lock's views were too mercenary, observed that the best mode of encouragement was to confer honour on the successful workman. A man, however, must look for honour first in his own class, and then afterwards his reputation would rise in the class above him. It was not the Society which could honour him; he must honour himself by the exercise of his own ability. Mr. Baker observed upon the want of knowledge of particular styles. This, no doubt, was so, and it was to remedy this evil that the Museum at South Kensington, as well as the British and the India Museums, were especially useful; and he thought this knowledge was better gained from them than it would be by such an offer of prizes. Any imitations of style would be much inferior to the originals; and the best way of encouraging the study of good styles was the giving designs to copy which furnished good models. This, however, was a question for the Council to decide upon. Then, the same speaker recommended that a certain number of practical workmen should be appointed to assist the judges with their advice in the award of the prizes. He thought, however, that at such meetings as the present, they got the benefit of advice given in the most open and free manner. If some of their own class were appointed to the duties suggested, there might be mistrust of their influence on the part of the competitors. Mr. Blackie recommended that medals should supersede the present money prizes. It was possible the Council might see fit to allow workmen who desired to receive a portion of the prize in the shape of a medal to do so, or they might add a medal of small intrinsic value to the principal prizes gained.

The CHAIRMAN said, the object of the Society in establishing these competitions, was not, in the larger and wider sense, to encourage the production of works of art, but to encourage the workman, and give him the credit really due to him, which, till they began this work, was generally claimed by the employer. They had endeavoured to bring the art-workman into the front rank, so that the public might know to whom the dealer in these commodities was really indebted for the labour and skill displayed. There was no doubt that though the increase in the number of works sent in year by year was not so great as could be wished, still they had made substantial progress. Let them look at the results of the last two years, as shown in the following table:—

	1867.	1868.
Total number of articles sent in for competition	102	94
Articles sent in in accordance with prescribed designs.....	47	46
Articles sent in not in accordance with prescribed designs.....	31	16
Wood-carvings without prescribed designs, but in accordance with prescribed regulations	24	32
Number of prizes awarded	46	43
Amount of " "	£175 10s.	£198 10s.

The judges had very properly stated in their report that it could not be expected that in the year of the French Exhibition there would be the same amount of leisure for the production of these works, and so a somewhat less number had been sent. Still, they found that the works exhibited this year were of a higher quality. The falling off in number was especially in the articles produced from the designs of the working men themselves. It was said by some that they ought not to think so much of the money prizes, but that they should rather look to the honour of obtaining them. Now, honour was a good thing, but money was not to be despised. Nevertheless, he (the chairman) could see no objection to a medal being awarded, at the option of the

recipient either in lieu of the pecuniary prize or jointly with the pecuniary prize. Many persons would no doubt be pleased to have a medal which they could preserve as a memorial of their skill. That was a question which would receive the attention of the Council. In the reports of the artisans who visited the Paris Exhibition last year, there was one universal complaint of something being wanting in the English workman which the foreign workman had; and what they wanted was the means of obtaining that knowledge which they said the French workman possessed. That could only be done in two or three ways. He did not believe it was in the power of the state, by any compulsory system, to make people learn; to suppose they could do this was entirely chimerical; but they could give to every man of real industry the opportunity of teaching himself; and if his primary education was good, when he got into the workshop he had the means of obtaining the knowledge which he really required. There were no better means, in his opinion, of promoting art-education than visiting museums and attending exhibitions of pictures and sculpture. The opportunities now afforded for educating the eye and the taste were greater than ever existed before. The representations of beautiful works of art which were to be obtained in publications at exceedingly cheap prices, containing wood engravings from the original works of the finest masters must disseminate a taste for and a love of art, because these works were sold by millions, and it was impossible they could be studied without the taste of the whole community being improved thereby. They had been asked to offer prizes to apprentices, but there was one difficulty with regard to apprentices in the present day. It was one of the rules of some trade societies to limit the number of apprentices as much as possible, and while those rules existed the spirit of emulation was necessarily weakened. He, for one, would, however, be inclined to adopt the suggestion that they should give apprentice-prizes. Then, again, it was suggested that it was not desirable to award prizes to those who had carried off prizes in former years. He thought if a man received a prize one year, and did work of a superior character, showing improvement in mind, hand, and taste the next year, they could not exclude him from a second prize, because he obtained one for an inferior work the year before. This, however, was a question for the Council. They were asked to give prizes for another distinct subject, viz., mechanics. The Society published, every few years, a list of premiums for various objects, including mechanical inventions, but these affected a totally different class from that of art-workmen. With regard to the suggestion that two or three working men should be asked to join in the adjudication of the awards, he would say that this had been tried in a former year, but the result had not been encouraging. Such distinguished artists as Mr. Redgrave and Mr. Wyatt were above all influence, and could have no other desire than to make their awards in the most conscientious manner in accordance with the merit of the works exhibited. He considered it a great honour to the competitors that they should have their productions examined by such men. He might mention that each year the authorities at South Kensington had bought several of the best works from these competitions, for exhibition in the Museum. This was certainly a high honour, and must be a great advantage to their producers.

SCHOOLS OF ART.

The Committee of Council on Education have just revised the grants to Schools of Art and the teaching in night classes, with the view of improving the conditions which were established after the publication of the last report of the Committee of the House of Commons in 1864.

The changes are explained in the following memorandum and extracts from the accompanying letter, addressed to masters of Schools of Art:—

MEMORANDUM.

The Lords of the Committee of Council on Education having had under consideration the existing regulations for affording aid to Schools of Art, have authorised the following additional payments:—

1. With a view to encourage advanced students to attend in large numbers and to remain longer in the Schools of Art, a payment of £3 on account of free-studentships for every artisan, being a draughtsman, designer, modeller, or handicraftsman, who shall submit satisfactory advanced works under the regulations in the Directory, and who shall be recommended jointly by the local committee and by the department's examiners. Students on whose account these payments are made, must be prepared to attend regularly for the year following the date of appointment, and must be admitted to study in the school without payment of fees.

2. An addition of £5 to the sum allowed for an art pupil-teacher. In schools where 20 artisans are satisfactorily taught one pupil-teacher will be allowed, and two pupil-teachers in schools where 50 artisans or upwards are satisfactorily taught. The payment in any school on account of pupil-teachers will therefore in future be either £15 or £30.

3. In addition to the payments of 15s. or 20s. on account of artisans who submit satisfactory works under the regulations, a proportional payment will be made on account of artisans whose works do not reach the standard required for full payments.

4. Bonuses will be awarded to the head-masters of the Schools of Art in which the results as tested by the examinations of the Department shall be most satisfactory. The basis of the awards will be the general amount of satisfactory work as tested by examinations, considered with reference to the number of students under instruction.

The awards will consist of—one sum of £50, three sums of £40, five sums of £30, ten sums of £20, twenty sums of £10.

5. In order that the committees of Schools of Art, night classes, and elementary schools, may more readily provide themselves with approved examples, the aid given towards the purchase of them will be increased from 50 per cent. to 75 per cent., and in special cases, where buildings or rooms are permanently and entirely devoted to instruction in art, this aid will be extended to the provision of apparatus and fittings.

6. In Schools of Art, where artisans are satisfactorily instructed, grants will be made to enable the masters to visit the South Kensington Museum, and other Metropolitan institutions, in order that they may acquire, for the benefit of their students, a knowledge of the latest progress made in those educational subjects which affect the schools.

7. Special grants of the works published under the sanction of the Department, and of other examples, will be made from time to time to such schools as have suitable premises for exhibiting and protecting them, and for their effective use as means of instruction.

The letter says—

1. As respects free studentships. The Committee of the school will be free to recommend as many artisans as they may think eligible, and as are willing to attend and work attentively for the year for which the fee will be paid by the Department in advance. The numbers appointed will depend upon the evidences of competency sent up to the Examiners of the Department; and it is expected that the masters will endeavour to use these studentships as a means of carrying further the instruction of the advanced students, especially of such as are engaged in the local manufactures.

2. It is intended by the changes in the payment for art pupil-teachers, to give every School of Art, fairly within the meaning of that term, an opportunity of appointing at least one art pupil-teacher who may relieve the master of certain details of management, and thus

give him more time for actual instruction, and who may assist him, or occasionally act as his deputy, but it is not expected that these pupil-teachers should be permanently appointed as teachers, unless they should become qualified, by taking a certificate of the third grade.

3. Under clause 3, every artisan taught by the use of sound examples, will obtain a payment for the funds of the school, greater or less, according to the amount and quality of his works.

4. As respects the bonuses of from £10 to £50, offered to masters.—These are intended to promote the maintenance of a sound system of instruction throughout the schools, and will be awarded on the evidences of success furnished by the annual examinations of works and students.

5. It is hoped that this extension of the aid hitherto given will enable masters to obtain, through the local committees, such renewal, or increase, of sound examples as may render the schools thoroughly efficient in this respect.

6. As regards the masters' visits to the metropolis.—These visits, which have ceased since 1862, are now revived, in the expectation that the masters will use the opportunity afforded to them to become acquainted with the resources of the South Kensington Museum and Art Library, and make them of greater use to their schools under the system of loans.

The masters of Schools of Art are urged to encourage the teaching of drawing in elementary schools and night schools, and to maintain friendly relations with the managers and teachers of them, in order that students, when competent, may pass from these elementary classes into the Schools of Art. These latter may thus, by degrees, obtain in the public estimation that position which can only be based on the existence of a large number of persons possessing elementary art knowledge, from amongst whom can be drawn students prepared for the higher teaching which is afforded in Schools of Art.

Commerce.

EXPORTS OF CHEESE AND BUTTER FROM HOLLAND.—The exports of Dutch cheese, during the year 1866, amounted to 30,339,000 kilos.; this shows a decrease of 1,346,000 kilos. on the exports of the previous year, and an increase of 2,180,000 kilos. on those of 1864, and 4,496,000 kilos. on those of 1862. The average annual exports of this branch of industry, from 1862 to 1866, were 28,500,000 kilos. In 1866 two-thirds of this article was exported to England, and a great part of this is re-exported by the English merchants to the colonies, the Mediterranean and Gibraltar. The exports to France during the same year amounted to 4,500,000 kilos. The exports of butter amounted, in 1866, to 18,373,000 kilos., the largest amount in five years. In 1863, 14,506,000 kilos. were exported. The average exports from 1862 to 1866 amounted to about 16,500,000 of kilos. per annum. The greater part of the butter is exported to England, and, in 1866, amounted alone to 17,173,000 kilos., against 12,500,000 kilos. in 1863.

MOVEMENT OF SHIPPING IN THE PORT OF VENICE.—The statistics of the movement of shipping in the Port of Venice, during 1867, have recently been published, and show an increase of 280 arrivals, of a total tonnage of 65,854, and 448 departures, amounting to 110,822 tons, on those during 1866.

TRADE OF GENOA.—The following statistics of the arrivals and departures of shipping in the port of Genoa, during the month of December, are published by the Chamber of Commerce of that city. From this it appears that the number of arrivals of steam vessels amounted to 178, and the departures to 181; in all 359 steam vessels, of the total tonnage of 97,123. The movement of sailing vessels amounted to 566, of the tonnage of 84,737, of

which 351 arrived and 215 sailed. Thus the total movement of shipping during the month amounted to 925 vessels, of 181,860 tons. During the whole of the past year (1867) the total movement of shipping was 11,718, amounting to 2,198,254 tons. These figures do not include the vessels employed in the coasting trade of the Riviera.

THE IRISH BUTTER TRADE.—The subjoined letter, addressed to Mr. Downs, of Tooley-street, by an Irish farmer, and quoted in the *Produce Markets' Review*, throws some light upon the difficulties under which this trade at present labours:—"I beg to acknowledge receipt of your report on my sample firkin of butter, which is very satisfactory. We poor Irish farmers are not quite so bad as most English people suppose. The men who write those stupid impertinent letters to the London merchants are not farmers; they are men in our provincial towns, who buy butter from farmers at the very lowest price, and hold it often till stale, waiting for an advance in the English markets; quantity and not quality being their interest, as their profit is the same on the inferior as on the best. They consequently take little or no trouble to instruct the farmers in the preparation of their butter, or as to the taste and wants of the English consumer, neither do they give us any suggestions to improve the trade in any way, and it is only through these men it can be made. I now see why they encourage extreme salting, seeing that if our butter was mild it would compel us eventually to go direct to the English salesmen. The small dairy farmers are shut out from your markets by the excessive rates of carriage of rail and steam companies on small quantities, such as we could send fresh and fresh,—say 6s. 6d. per firkin, while the merchant pays 1s. per firkin on quantity; therefore we are entirely in their hands, and, I am sorry to add, they are no friends of the farmers, their interest and ours not being identical. If we had even a few such men as you in this country, who would give us information as to the mode of making, packing, salting, fluctuation of markets, and wants of consumers, &c., we might expect to compete successfully with foreigners, but you must now see, we get no facilities from carriers or Irish merchants to do so. I think, in spite of the difficulties and expense of transit, I will send direct to England, and am anxious to try to come still nearer to perfection."

Colonies.

NEW ZEALAND FLAX.—The manufacture of native flax seems suddenly to receive increased attention in all parts of New Zealand. The *Southland News* has the following report of progress:—"Mr. Thompson, shipbuilder, of Invercargill, has of late turned his attention to the working of the native flax, and after several experiments has at length succeeded in producing from the raw material a strong, clean, and well-coloured fibre, perfectly suitable for rope making. The process employed is mechanical, neither heat nor chemical agents being had recourse to. Mr. Thompson states that, with the appliances he has brought together, two men will be able to turn out from three to four hundredweight of clean flax per day."

CHARITABLE INSTITUTIONS IN VICTORIA.—The statistics for the past year give twenty-five hospitals, some of which had benevolent asylums in connection with them. They had 155 wards, having 1,334,484 aggregate number of cubic feet in the wards, and 1,414 beds. Indoor relief was given to 10,183 persons, and outdoor to 49,291. The daily average of outdoor relief was 817.7, and indoor 1161.5. The number of benevolent asylums was 6, having 1,045 beds. Relief was given to 63,943 outdoor persons, and 6,127 indoor; the average daily relief being outdoor 833.8, and indoor 965.9. There were five

orphan asylums, having 863 beds, and affording relief to 894 indoors and 8 outdoors. The expenditure of the hospitals was £89,722 18s. 6d., and the receipts from government for building purposes £14,950, for maintenance £50,073 15s. 4d., and from private contributions £23,421 17s. 1d. The private contributions to benevolent asylums were £6,956 17s. 9d.; to orphan asylums £6,923 19s. 1d. The government contributed £14,200 for building purposes, and £28,794 15s. 1d. for maintenance. The expenditure was £63,790 6s. 10d. A calculation of the sums contributed by the public to the various charitable institutions during 1866, gives the sum of £49,077 15s. 4d. This does not include the amount contributed to religious purposes or special appeals to the public benevolence on temporary matters.

Obituary.

SIR DAVID BREWSTER died on Monday, the 10th inst., at his country seat of Allerly, near Melrose, at the age of 86 years. His father was rector of the Grammar School of Jedburgh, where Sir David was born, on the 11th of December, 1781. Mr. Brewster intended his four sons for the ministry; and three out of four rose high in that profession. The second son, David, chose the study of natural science and philosophy. In 1800 the University of Edinburgh conferred on him the honorary degree of M.A., and here he had the advantage of intercourse with Robinson, Playfair, and Dugald Stewart, who were then professors. In 1807 he received the degree of LL.D. from the University of Aberdeen, and in the following year he was elected a fellow of the Royal Society of Edinburgh; and in that year, also, he projected and began that most laborious work, the "Edinburgh Encyclopædia," of which he continued editor until its completion, in 1830. In 1813 he published some results of his optical studies, in the "Treatise on New Philosophical Instruments," a work which had reference to illumination generally and lighthouses in particular. He also contributed a paper to the Royal Society of London, "On some Properties of Light." The Copley Medal was awarded to him by the society, in 1815, for his paper on the "Polarization of Light by Reflection," and he was also elected a fellow. It was in 1816 that Sir David made his name popularly known as the inventor of the kaleidoscope. In 1818 the Rumford medal was given to him by the Royal Society, for further "Discoveries relating to the Polarization of Light." In 1819, in conjunction with Professor Jameson, he started the *Edinburgh Philosophical Journal*, which he afterwards carried on alone, under the title of the *Edinburgh Journal of Science*, of which sixteen volumes were published, containing many scientific papers from his own pen. He twice had the honour of receiving the Keith medals from the Royal Society of Edinburgh, of which body he was for many years Vice-President. In 1825 he was elected a corresponding member of the Institute of France, and in 1849 he succeeded the illustrious Berzelius as one of its Associates. In 1827 he published his "Account of a New System of Illumination for Lighthouses;" and, although he offered his services to the lighthouse boards of the United Kingdom, nothing appears to have been done until 1833, when experiments were made in Scotland, which showed that "one polyzonal lens, with an argand burner of four concentric circles, gave a light equal to nine parabolic reflectors, each carrying a single argand burner." The great improvement that has been made in lighthouse illumination dates from that period. In 1830, William IV. conferred upon Brewster the honour of the Guelphic Order, and he was knighted in the following year. The last thirty-five years of his life he spent as Principal of the United College of St. Leonard's and St. Salvator at St.

Andrew's. In 1859, he was chosen Principal and Vice-Chancellor of Edinburgh University. He was also a magistrate for the county of Roxburgh. His favourite subject was optics in its higher and mathematical departments. It was he who, from his examinations of the solar spectrum, overthrew the assumption that white light is composed of seven colours, and demonstrated that, in reality, it was produced by the combinations of only three. Among the many branches of this intricate science which engaged his attention we may specially mention the optics of crystals, upon which he gave science many valuable memoirs, and atmospheric polarisation, a subject upon which he wrote in the "Edinburgh Philosophical Transactions" a few months before his death. The discovery of the principle of the stereoscope is due to Wheatstone, but Sir David has the fullest right to the claim, that in his hands—chiefly through the skilful application of semi-lenses—it started into a practical instrument. To his optical researches are due great improvements in our modern microscopes and telescopes; and to his early appreciation of the labours of Fresnel this country is indebted for the introduction into our light-houses of the dioptric system of illumination and of the polyzonal lens. Among his works may be mentioned his treatise on "New Philosophical Instruments," on "Optics," on the "Kaleidoscope," the "Stereoscope," his "Life of Newton," the "Martyrs of Science," his "Treatise on Natural Magic," and his "More Worlds than One." The latter work was written to oppose the speculations advanced by the late Master of Trinity College, Cambridge, in his "Plurality of Worlds." He was twice married, first in 1810, to Juliet, second daughter of the late James Macpherson, Esq., M.P., of Belleville; and, secondly, in 1857, to Jane Kirk, second daughter of the late Thomas Purnell, Esq., of Scarborough. By the former he has left issue David Edward, a Lieutenant-Colonel in the Indian Army, who was born in 1815.

Notes.

ERUPTION OF VESUVIUS.—Few people can form a clear idea of the eruption of a volcano, and therefore a few extracts from an interesting letter written to a friend in Paris, by a clever young painter, who won the Grand Prize at Rome last year, son of the learned M. Regnault, of the Institute, may be acceptable. M. Regnault and party started from Naples the other day at ten in the morning, but, in consequence of the difficulties of the ascent, only reached the source of the lava as the sun was setting. The sight he describes as sublimely horrible; the lava came boiling out of a kind of tunnel, and flowed like a torrent, but with the glare of molten metal at a white heat; at times its flow was interrupted, when the writer describes it as swelling and heaving like the breast of a huge giant, and belching forth sulphurous vapours. They stood on the site of an old crater, which last year was hollow, but which had since been heaved upwards and rent asunder, and through the fissure thus caused came jets of smoke, ashes, and projectiles; these falling around had created a second cone, which increases daily, and now crowns the summit of the grand cone; at the foot of this second crater, at a spot where the great one is still open, poured out the molten torrent, divided into two or three streams, which reunited at the foot of the cone, and then again separated into two branches, one of which flowed on towards Resina, and the other towards Torre del Greco. Over the heads of the party floated a great mass of smoke, illuminated by the red glare of the lava, and, at intervals of from ten to fifteen seconds, an immense black column issued from the crater and fell in ashes around. In the midst of this column of fire and smoke were thousands of heated stones, which fell on the small cone and rolled down its sides with

terrific noise. When a walking-stick was dipped into the burning lava it immediately burst into flame, like a match, and the current was so rapid that the stick was nearly carried out of the hand. The heat was so intense, that even with the hat before the face, and a handkerchief over the hand, it was impossible to support it for more than three or four seconds. From time to time the guide of the party flung a small quantity of lava out of the stream, and the party were able to produce impressions of coins which they chanced to have about them. In descending, the party found itself face to face with a new torrent of lava, which had started from a spot above that which they had visited, and was slowly descending the very route which they had left; had there been any delay in their journey, they might have been surrounded, and placed in some difficulty, but they succeeded in passing in front of the torrent. On the following day they ascertained that the new lava stream had taken the road to Torre del Greco, after having passed over a distance of more than a mile during the night.

FRENCH VIEW OF ENGLISH ART EDUCATION.—M. Ferdinand de Lasteyrie delivered a lecture recently, at the Union Centrale des Beaux Arts, in Paris, on "The State of Industrial Art Education in England." After advertizing generally to the progress made since the first international exhibition, principally through the generous and enlightened initiative of the late Prince Consort, the lecturer took a rapid review of the schools of design in Great Britain. England, he said, was the opposite to France, the country of decentralization, thus the most important results are not to be looked for in the great industrial towns; and he referred to a small town in Cornwall, where the art school was attended by ninety-two persons out of every thousand of the population. "The progress, rapid and important as it had been, did not, however," said M. de Lasteyrie, "seem of a nature to alarm us. We still keep the lead, as was shown by the last exhibition, and the persevering endeavours of the founders of the Union Centrale will contribute to raise our standard of industrial art higher and higher. The system is perfectly organized in England, and we may borrow some good ideas from it. England has her Department of Science and Art, and her universities grant special degrees: why should we not have a Conservatoire of Industrial Art, with diplomas of Bachelors of Art?" Such are the views of an intelligent Frenchman, who, however, evidently misunderstands our university system, and thinks that a "Bachelor of Arts" is a proficient in the fine arts.

THE MONT CENIS TUNNEL.—According to the usual monthly statement of the progress made in the Mont Cenis tunnel, published by the Italian Government, the length of tunnelling during the month of December, 1867, was 73·25 mètres, of which 35·40 mètres were on the Italian side at Bardonnechi, and 37·85 mètres at Modane on the French. The position of the tunnel, up to the 31st December, 1867, was as follows:—

	Mètres.
Total length of tunnel	12,220·00
“ “ of boring	7,846·65
Remaining to be done	4,373·35

The progress made in the tunnel during the whole of the past year is 1,511·96 mètres, of which 824·50 mètres were at Bardonnechi, whilst at Modane the advancement was 687·46 mètres. This difference may be attributed in a great measure to the extra hardness of the rock encountered on the French side. The falling off in the advancement made during the month of December, as compared with the other months, is due to the suspension of the works for some days for the purpose of verifying the levels and line by the engineers. Altogether, the progress during the past year has been most satisfactory as compared with that of the previous year, when the total progress at both ends amounted to only 1,024·99 mètres.

REWARDS FOR ADULT EDUCATION IN FRANCE.—The admirable conduct of the poor schoolmasters of France in giving up their evenings to the education of adults has attracted general attention, and excited a great public interest in the subject. As evidences of these facts may be mentioned the recent creation of three prizes, to be given to those who establish and conduct such classes, the donors being the principal of a college, who does not wish his name to transpire; M. de Saint Balmont, member of the general council of the Meuse; and M. Fornand Lahour, maire of Saint Pathus, and private secretary to the Minister of Justice. Each of the prizes consists of a gold medal of the value of a hundred francs.

AGRICULTURAL EXHIBITION AT VERONA.—The Academy of Agriculture, Commerce, and Arts, of Verona, intend celebrating, in the course of the present year, the one hundredth anniversary of their establishment, by an agricultural and industrial exhibition, with a show of cattle, to be held at Verona from the 14th Sept. to the 15th Oct. For this purpose, the Minister of Agriculture has granted a subsidy of 4,000 francs and sixteen medals; the Provincial Council 4,000 francs; the Chamber of Commerce 1,000 francs; and the Municipality of Verona 3,000 francs.

Correspondence.

RECENT INTERNATIONAL MONETARY CONFERENCES.—**SIR,**—I will now, with your permission, resume the subject of my letter, published in your *Journal* of the 10th January. Mr. Ruggles has given some valuable comparative statistics of the gold coin issued from the Mints of the United States, Great Britain, and France respectively, from 1792 to 1865 inclusive. We may conveniently disregard all fractions of a million of dollars, and condense his figures as follows, with the addition of some fresh calculations of per centages, rendering the information more useful than in its original cruder form:—

	Value in Dollars.	Per centage of Total Coinage.
(a.) <i>Total Gold Coinage before 1851.</i>	Millions.	
United States (from 1792) ..	180	18½
Great Britain { „ 1816) ..	480	48½
France { „ 1793) ..	325	33
	985	100
(b.) <i>Total Gold Coinage from 1851 to 1866.</i>		
United States	665	31½
Great Britain	455	21½
France	988	47
	2,108	100
(c.) <i>Total Gold Coinage from 1792 to 1866.</i>		
United States	845	27½
Great Britain	935	30½
France	1,313	42½
	3,093	100

Very probable grounds are put forward for assuming that out of the total amount coined by the United States, about 300 million dollars worth, at the utmost, remains in its original state, and would ultimately require recoinage to be made international in the sense contemplated by the Paris Conference. A great part of the remaining

American coinage would still be flowing out of the States as export for recoinage at other mints; and we may assume 250 million dollars worth as a fair net estimate; and 400 to 500 million dollars worth might similarly be estimated as the gross circulation of English sovereigns. Mr. Ruggles would seem, however, to have misunderstood “M. de Parieu and other distinguished economists of Europe,” as absolutely estimating the amount of gold now in actual circulation in France, Belgium, and Italy at 7,000 million francs, or 1,400 million dollars. M. de Parieu, in his article in the *Revue Contemporaine* of 31st October, 1866, after adding to the gold coinage of France, from 1792 to 1866, that of Italy (about 417 million francs in gold, from the time of Napoleon the First), and that of Belgium (say 20 million francs), brings the total coined gold to 7,000 million francs, and remarks that but little of it can have been demonetised. But we may fairly inquire, (1) As special causes have affected gold coinage in the United States, and probably reduced its gross total amount from 845 million dollars coined since 1792, to a present amount of 250 million dollars; and (2) As another set of special causes, and particularly our very liberal system in England of coining bullion into coin, and of exchanging coin, or notes representing coin, into bullion, almost practically free of charge, have probably reduced the gross total amount of British sovereigns and half-sovereigns coined since 1816, from 935 million dollars worth to 500 million dollars worth in circulation; ought we not also to assume some considerable reduction from 1,400 million dollars worth of gold coined by France, Italy, and Belgium, since 1792? Our estimates suppose a reduction of 70 per cent. from the United States, and of 46 per cent. from the British coinage. Considering the effect of the newer condition of the continental gold coinage, a reduction therefrom of about 25 per cent. may, in its turn, be made with apparent fairness. This would bring the comparative gold circulation of the countries included in the monetary convention to about 1,050 dollars worth, or to nearly the same proportion per head of population as the estimated figures for the United Kingdom. There is fair ground at least to assume that although the sovereign and dollar be more widely diffused than the napoleon, there are twice as many napoleons in circulation as sovereigns, four times as many as half-eagles, and about one-third more than sovereigns and half-eagles together. Mr. Ruggles estimates the cost of recoinage at one-fifth of one per cent., and states that this is the rate ascertained by experience. If this be so, and the whole of 300,000,000 dollars had to be recoined, the cost would be 600,000 dollars for America, and 1,000,000 dollars, say £200,000, for Great Britain, as the charge for recoining 100 million sovereigns. Mr. Ruggles submits that it “should be borne in mind that this expense of recoinage by the several nations is to be incurred but once for all, while the incessant remeltings and recoinages under the present system by the mints of different nations, are a constant and needless diminution of the monetary wealth of the world. The burden principally falls on the nations, like the United States, which export gold needing to be recoined, the value of which abroad is reduced precisely by the cost of its recoinage: and if the total expense of the recoinage necessary throughout the world to accomplish the proposed unification were even to reach 2,000,000 of dollars, it would be speedily reimbursed in the saving of further recoinages, brokerages, and exchange.” This estimate, by Mr. Ruggles, of the cost of coinage, seems so very moderate, that it deserves inquiry whether it is not underrated. The most recent information to which we can refer at this moment, is contained in a memorandum by Sir Charles Trevelyan, dated Treasury, Feb. 16, 1848, in which it is stated that when gold, silver, and copper have been struck in the same year in the same mint, and when two, if not all three of these metals have been under operation at the same time, it is extremely difficult to determine, even approximately, the propor-

tions of coinage expenses, and of establishment and contingent charges fairly assignable to each. It appears pretty plainly, that in England we should have something of the same difficulty to ascertain what it costs to coin a given amount of sovereigns, as Mr. Seely is now experiencing in getting at the cost of building ships in the royal dockyards. In fact, Sir Charles Trevelyan, in 1848, had to fall back upon some old evidence given to a committee of the House of Commons in 1837, in which it was stated, that in France, the expense to which the Government was put by the coinage of gold, was about a quarter per cent., and in England a fraction less than a half per cent. What saving has been effected since 1837 by reforms in the Mint system, or by improvements in machinery, it is not within our power to ascertain, but the result, probably, is to be found somewhere between the extremes of one-half and one-twentieth per cent. Even if we were to take it at a quarter per cent., and that the average current sovereigns of Great Britain are diminished by wear to the extent of a half per cent., or by $\cdot 0565$ of one grain in the 113·002 grains Troy of pure gold which ought to be in each of our present sovereigns, there would be a balance of gain of a quarter of a million pounds sterling, instead of the loss of £200,000 to our Government, which Mr. Ruggles estimates would attend the internationalisation of our British coinage. In this question the public stands very much in need of some accurate information, derived from careful experiments, on a large scale, upon the coin actually in circulation, and not upon the picked coin which is taken to the Bank of England. The results ascertained in 1833, when Lord Auckland was Master of the Mint, showed an average loss of one-half per cent. on current coinage, the oldest pieces of which were only sixteen years old, and which is much below the age of our oldest present coinage. In 1807 some experiments were made by the officers of the Royal Mint, which showed a loss of 1·1666 per cent. on guineas, and of 1·6479 on guineas and half-guineas. The average deficiency was even greater (1·7271 per cent.) on guineas and half-guineas in 1774, when there was a recoinage of gold, which cost the country three-quarters of a million sterling. Our system in England, of coining and recoinage without charge or seignorage, and for the advantage of certain classes of the community, has always been excessively costly, and has justly met with the condemnation of the best informed of the many officers of eminent talent who have from time to time been connected with our Mint administration. It has cost the taxed public many millions, and an international system of coinage might prevent much future loss of the kind. We are glad to notice the shrewd spirit in this regard in which Mr. Ruggles comments in his report upon a statement "by an eminent and experienced banker in Europe, that there are now scattered through its different nations, and along their frontiers, at least five thousand money-changers (including their *employés*) who gain their living by changing the gold of the various countries of the world." Mr. Ruggles adds, "If there are but two thousand, earning yearly an average of one thousand dollars each, it would amount to two millions of dollars yearly, which the world ought to save and would save by the proposed unification, not to mention the vexatious loss of time in calculating fictitious rates of exchange, and the large additional saving in the future product of gold." Passing to other subjects discussed at the monetary conference, we may refer to the *Procès-Verbaux* (Paris, Imprimerie Impériale, 1867), as containing ample testimony of the consistency with which Mr. Ruggles supported the dollar of the United States and the sovereign of Great Britain as units which cannot be superseded, although they may easily be assimilated to the coins of other nations. At the meeting of the conference on the 19th June last, the delegates from Portugal (Count d'Avila), from Austria (Baron de Hock), from Switzerland (M. Feer-Herzog), all spoke as well as Mr. Ruggles in favour of the reduction of the

sovereign to 25 francs, and of the dollar to five francs, as the basis of a perfect international coinage. The delegates from England (Mr. Graham, Master of the Mint, and Mr. Rivers Wilson, Private Secretary to the Chancellor of the Exchequer) replied that there would be serious inconveniences in leaving in circulation sovereigns of 25 francs 20 centimes in case of issue of new sovereigns reduced to 25 francs, and that a re-coinage would therefore be necessary. Mr. Graham, through Mr. Wilson, then proceeded to observe that if once the pound sterling were brought to 25 francs, it follows that the population, accustomed to division by 20, would call for the 20-franc piece, and thence would follow a necessity for a second re-coinage, and, in such event, the abandonment of the sovereign, and that it would be better to adopt immediately the French system. Such an argument as this, that a reduction of 20 centimes in the pure gold value of the sovereign would have an effect powerful enough to lead to so many *non sequiturs*, reminds one forcibly of a remark of the acting president of the conference, M. de Parieu. The *Globe* London paper of 12th September, 1866, had warmly protested against the monetary convention, enlarged upon the advantages of a difference in the coinage of various countries, and mourned over the admission of Australian sovereigns into British currency. This, M. de Parieu remarked, in the *Revue Contemporaine*, led him to think that, in contradiction to those who think of uniting France and England by a submarine tunnel, there are probably some few persons amongst his English neighbours who would invent the English Channel if it did not already exist. The observation of Mr. Graham was well answered by the representative of Switzerland, who remarked that if we reduce the sovereign to 25 francs, and divide it (of course, decimally), we obtain the double of the actual shilling, and not the franc; and added that, in fact, this double shilling exists, since it is the English florin, and that, consequently, the reduction of the sovereign would not lead to its abandonment. At the 3rd meeting of the conference (see *procès verbal*, page 39) one of the Swedish delegates, M. Wallenberg, member of the Diet, and director of the Bank of Stockholm, made a true and most practical observation, when he stated that England should take a large interest in reducing the sovereign to 25 francs, as indicated in the conference, because the pound sterling is given in considerable quantities as the equivalent of 25 francs. There is no doubt that M. Wallenberg is well founded in this remark, and it passes belief what large sums we Englishmen allow ourselves to be mulcted of in this way, not only in great transactions, such as in many public loans to foreign governments, in which 25 francs is the fixed exchange for the sovereign, but also in the more numerous smaller transactions of daily life, in which vast sums are transferred from the pockets of John Bull to his continental neighbours at the easy rate of 25 francs per pound. This is constantly being done in paying for railway fares, telegrams, postages, hotel expenses, &c. We let our fleece be shorn in these ways without a murmur, and yet, when the matter is proposed to be made clear and straight by a proper equalisation of the sovereign, there are some amongst us disposed to parallel the old calendar anti-reform cry of "give us back our eleven days," and to think the beginning of the end is coming, when the 113·002 grains of pure gold, which are theoretically in the sovereign, shall be reduced to 112·0677 grains. At the fifth meeting of the conference, H.I.H. Prince Napoleon presided. A very simple question was before it, namely, "Is it necessary, for the success of monetary unification, to constitute, from henceforth, an everywhere identical unit as regards metallic composition, weight, and denomination, and, in such case, what basis should be assigned to it? or does it suffice to constitute common types having a sufficiently high common denominator, for example, multiples of five francs, for gold coin?" Immediately after the Prince had opened the discussion,

Mr. Wilson read a very lengthy declaration, in French, intended to explain what he termed the very delicate and exceptional position in which the English delegates found themselves placed, and the extreme reserve which the government had found it necessary to enjoin upon them, their simple duty being to hear, to study, and to report, the English nation being, as regards this question, in a totally different position from the majority of the continental nations, and in a much more independent position. The declaration goes on to aver, that so long as public opinion shall not be decidedly in favour of a change in the actual system; so long as this system does not present inconveniences either in the large transactions of commerce, or in the trivial details of the private life of the country; so long, in fact, as it shall not be incontestably demonstrated that the adoption of a new system offers advantages superior enough to justify the abandonment of that which is approved by experience, and rooted in the habits of the people, the English government will not deem it its duty to take the initiative in the path of assimilation of its coins with those of the continental countries. One would

fancy, in reading this remarkable paragraph, that the subject really in debate was some vast and revolutionary change of "system." But what "system" is involved in the fact that 113·002 grains troy of pure gold are empirically coined into a sovereign? This proportion, or £50 19s. 5½d. as the nominal mint value of a pound sterling of pure gold, sinking the alloy, was settled in the reign of Charles the Second; but it was not meant to be as a law of the Medes and Persians, for William the Third and Queen Mary changed it, and coined £52 3s. 8½d. as the nominal mint value of a pound of pure gold. And so it continued until 1717, when Charles the Second's proportions of the gold coinage were reverted to. At all events no inconvenience was experienced through this change. And it occurred in the time of a king whose government did more for our coinage than that of any preceding monarch. In order to show the alterations which would be required in the mint proportions or nominal values of our gold currency to make it international, we have constructed the following table, some of the figures in which are approximations, on account of small fractions being omitted:—

NET OR INTRINSIC VALUES, AND GROSS OR STANDARD VALUES, OF ENGLISH GOLD CURRENCY, AND MINT RATIOS OF GOLD TO SILVER FROM 1663 TO 1868.

(I.)—NET OR INTRINSIC VALUES.

Dates.	Nominal Value of One Pound troy (i.e., of 5760 grains weight) of PURE GOLD, in pounds sterling.	Nominal Value of One Ounce troy (i.e., of 480 grains weight) of PURE GOLD, in pounds sterling.	Mint Ratio of Gold to Silver, as determined by the pure metal in one pound sterling of gold coin, and in 20 shillings of silver coin.
1663 (15 Charles II.)	$50 \cdot \frac{153}{16} = 50 \cdot 9727 = £50 \ 19 \ 5\frac{3}{4}$	$£4 \cdot 2477 = £4 \ 4 \ 11\frac{1}{2}$	1 to 15·2096
1696-9 (William and Mary)	$52 \cdot \frac{41}{20} = 52 \cdot 1863 = £52 \ 3 \ 8\frac{1}{4}$	$£4 \cdot 3489 = £4 \ 6 \ 11\frac{1}{4}$	1 to 15·3885
1717 (3 Geo. I.)	$50 \cdot \frac{153}{16} = 50 \cdot 9727 = £50 \ 19 \ 5\frac{3}{4}$	$£4 \cdot 2477 = £4 \ 4 \ 11\frac{1}{2}$	1 to 15·2096
to 1868			(A.D. 1717 to 1816)
PROPOSED INTERNATIONAL STANDARD.	$51 \cdot \frac{47}{10} = 51 \cdot 4250 = £51 \ 8 \ 6$	$£4 \cdot 2851 = £4 \ 5 \ 8\frac{1}{2}$	1 to 14·2870 (from A.D. 1816)
			1 to 14·4070 for Great Britain only.

(II.)—GROSS OR STANDARD VALUES.

Dates.	Nominal Value of One Pound troy (i.e., of 5760 grains weight) of STANDARD GOLD, in pounds sterling.	Nominal Value of One Ounce troy (i.e., of 480 grains weight) of STANDARD GOLD, in pounds sterling.	Standard fineness of Gold Coinage.
1663 (15 Chas. II.)	..... £46·725 = £46 14 6	£3·8938 = £3 17 10½	$\frac{11}{12} = \cdot 9166$
1696-9 (William and Mary)	..... £47·838 = £47 16 9	£3·9865 = £3 19 8½	$\frac{11}{12} = \cdot 9166$
1717 (3 Geo. I.)	..... £46·725 = £46 14 6	£3·8938 = £3 17 10½	$\frac{11}{12} = \cdot 9166$
to 1868			
PROPOSED INTERNATIONAL STANDARD.	..... £46·275 = £46 5 6	£3·8568 = £3 17 1½	$\frac{9}{10} = \cdot 9000$

Notwithstanding that the declaration of the English delegates rather inclines one to the belief that the question is prejudged, it expressly states that it would be wrong to suppose that the government indulges in foregone prejudices upon the important question which was under debate by the Conference, and (we translate from the French) that the English Government will always be ready to give its support to every attempt having for its object to enlighten and guide public opinion in the appreciation of this question in a general manner (*d'une manière commune*), and in the discussion of means by

which this assimilation—so advantageous in theory—might be brought about. The apparent timidity in discussing this question, shown by the English delegates, evidently surprised the members of the Conference. Prince Napoleon had to assure these delegates that they need not fear to give their advice, as their opinion, like that of the others, could not bind their government. Count d'Avila, Portuguese Minister to the Court of Madrid, stated that he knew the difficulties attending a change in the English monetary system; but, from a theoretical point of view, that did not explain the reserve of the

British delegates. M. de Parieu, at the conclusion of this meeting, observed, and with sound reason, that an approximation could be made between the French and English monetary system if the sovereign, in its pure gold value, were reduced to 25 francs; and that it would not be absolutely necessary for that to change the standard of fineness. This would, he observed, be a great, even although insufficient, progress; and there would, notwithstanding, be neither identity of weight nor of fineness in this instance. But, on the other hand, it would give types having a common denominator without any identity; for example, if England only brought her sovereign to 25 francs without France striking pieces of the same value. Prince Napoleon thereupon remarked that this would not be an international money. But M. de Parieu replied, international money does not mean identical money, but only easily commensurable money. The simple proportion of pieces of 20 francs to those of 25 francs, would constitute already a sort of international union of a certain utility. At the next day's conference Prince Napoleon again presided, and although at previous meetings it had been most carefully explained that the common denominator for the weight of the gold coins was not intended to disturb any unit, but that it might be simply theoretical, without any necessity for coining it, all this seems to have been completely forgotten by the English delegates when the question of the day came on for discussion, namely, "What should be the common denominator?—should it be the five-franc piece?" Mr. Graham then stated, through Mr. Wilson, that in his individual opinion the ten-franc piece, if it were adopted, would have an advantage over the five-franc piece, in giving a higher unit, which would be desirable for England, and as offering a more simple relation to the ordinary system of the franc. This is a somewhat singular answer from an English point of view, seeing that 10 francs is no common denominator of the international sovereign and napoleon, but five francs is both a common denominator of these coins and of other coins, easily to be brought into the scale of multiples of five. However, the question was brought to the vote, and carried in favour of the five franc common denominator, by 13 to 2. Mr. Graham remarked that if five francs were adopted as the common denominator all accounts would be reduced to the dollar in England. Yes, might have been replied, if the steeple of Tenterden is the cause of the Goodwin Sands; for the one is as logical as the other supposition. A discussion was then opened upon the question, whether it would be useful, in case of gold being adopted as the international metal, that the types of gold coin determined by the monetary convention of 23rd December, 1865, should, in the interests of unification, and following out reciprocity, be completed by new types, for example, pieces of 15 francs and of 25 francs? The American, the Italian, and several other delegates spoke in favour of the 25-franc piece. Prince Napoleon explained that France would be quite ready to admit that coin into the terms of the convention of December 1865, with the consent of the other countries parties to it. Mr. Ruggles insisted that it should be well understood that the United States hold particularly to the adoption of the type of 25 francs. Upon this (*vide Procès Verbaux*) p. 85), Mr. Graham stated that the number of coins ought not to be too much multiplied; that the introduction of pieces of 15 and 25 francs into the French system would be defective, and that it would be better worth while, in this point of view, to stop at 20 francs. He asked if France really meant to strike 25-franc pieces? His Imperial Highness replied "that certainly, if France only consulted her personal convenience, she could see no necessity for the issue of this new coin; but, to facilitate the work of unification, which is the object of the labours of the conference, she would make the concession asked for by the United States. The coinage of a 25-franc piece would appear, in fact, to suit England and Austria

equally." The Count de Nava de Tajo then observed that it would suit Spain also. M. Kern, one of the Swiss delegates, observed that he had voted for the 25-franc piece, because the United States and Austrian delegates thought they would be able, on their part, to make some concessions to the project of union, and because he supposed that England would welcome with satisfaction the decision of the conference. But, in this respect, he had experienced as much surprise as regret when he heard the delegate from Great Britain say that the 25-franc piece did not appear to him to be useful. Mr. Rivers Wilson then explained for Mr. Graham, that the British delegate had only expressed himself from a purely theoretic point of view, and that the 25-franc piece would be rather hurtful than useful to the general economy of the French system, but that it would not be the same with reference to a monetary union between France and England. Prince Napoleon, in commenting on this, said that "he deeply regretted this confusion, proving as it did that if it be true to say that the members of the conference were discussing theoretically, it was only in this sense, that they do not bind their governments, as would negotiators furnished with full powers, but that it was well understood that they had no concern there with giving themselves up to speculative studies, an object being indicated for the labours of the conference, and it was towards the practical means of arriving at that object that the delegates of all the states should direct their efforts." At the next (7th) meeting M. de Parieu proposed "that the conference should express its wish that any measures which might be resolved upon by the Governments of the different states, to modify their monetary systems in the sense of the bases indicated by the conference, should, as far as possible, result in diplomatic conventions." This resolution was unanimously carried. On the question of how long should be given to the various governments to send their answers, Mr. Wilson stated that, "the longer the term be deferred, the more chance would there be of obtaining from his Government a satisfactory reply; and that there was reason to fear that by wishing to hasten the resolutions of the English Government they would render them the less favourable; and that, in any event, he could not promise a definite conclusion from England within a more or less prolonged delay. If the British Government were disposed to adopt any measures, it would confine itself, probably, in the first place, to opening an inquiry, which would be made either by a committee of the House of Commons, or else by a Royal Commission." Mr. Wilson, of course, did not hint to the Paris Conference that, according to our English customs, this reference to a Royal Commission is too often like shelving a subject, or adjourning it to another generation. For whilst the commission is sitting upon it, the public forget the whole reference, and cool down to a state of indifference, almost of oblivion, respecting it; and then, when the report appears in its blue covers and bulky folio form, it does not circulate at all in the ordinary sense of the word; or even if it influence public opinion, it does little in the way of educating it. Nine times out of ten, such reports get cast aside as contributions to the waste-paper stores of the chandler's shop. Seeing how report after report in favour of decimal coinage has been allowed to be negated by the deadening influence of a Royal Commission of two persons, we need not take so hopeful a view as Mr. Ruggles does of a reference of the kind. Mr. Ruggles is not discouraged at the prospect, but tells us: "We may surely indulge the hope that the practical and clear-headed Anglo-Saxon race, now so widely diffused through different quarters of the globe, abandoning narrow prejudices and worn-out traditions, may be found cordially agreeing on a common money for the use of civilized man." M. de Parieu, in his paper on l'Union Monétaire, very significantly remarks that we have a little difficulty of *amour-propre* in this question, which we must manage to get the better of. He well depicts us in

England, saying "why do you talk of modifying our monetary standard? Have our rights, our fundamental laws, any thing in common with those of the Continent? Is not our civil and political order surrounded with Gothic battlements as high and inaccessible as those which deck many of our buildings? We have in circulation in the world more than 80 millions in gold, and we were the first to accredit this form of currency in the whole universe. The sovereign is known in the two hemispheres. It has subsidized the work of the most barbarian nations, and sometimes the blood of European armies. Everywhere that the English flag has made itself known and respected, English money, and the paper which represents it, have found their place and conquered their credit. Let the pound sterling be copied and initiated if it be desired, but why wish to modify it?" No one has better explained than M. de Parieu himself why this should be wished, and the practical advantages have been set forth by him in the statesmanlike address he delivered at the concluding meeting of the conference, on the 6th July last, and in the *Journal des Economistes* of the following month (see article *De l'Uniformité Monétaire*, par E. de Parieu, Membre de l'Institut, Vice-Président du Conseil d'Etat). We may, perhaps, be accused of talking "cosmopolitan jargon," if we say that a country like ours, which inaugurated free trade, should lead the van, instead of bringing up the rear, in matters that assist free trade, like international and decimal coin, weights, and measures; but we should willingly submit to such an imputation if we could make a breach, however small, in the bulwarks of bureaucratic apathy, on a subject important alike to education, to commerce, and to harmony amongst nations.—I am, &c.,

FREDK. HENDRIKS.

Palace-gardens-terrace, W., 17th Jan., 1868.

FOOD AND CLEANLINESS.—SIR,—I have a very strong conviction that the poor, and those rather above them, and the cause even of education, may be immensely and speedily benefited by certain very simple measures. I have already said that food may be cooked and carried round to them at a saving of food, coal, time, and to the feeding them with more wholesome and warmer food. I have tried to demonstrate this by a mass of details, because I was particularly urged at once to come forward with details, although I fancy it might have been more advantageous at first to have leisure to discuss principles—their bearing, not only on the question of food, but on any other questions that naturally come into the mind in any lengthened and serious consideration—how to economise time, labour, and materials, or, in other words, the resources which are at the command of the thoughtful political economist, in any hearty endeavours to ameliorate the condition of the people. I hope I have so discussed the food question as to indicate a practical spirit. I am sure that no difficulty has been started but that may be overcome. Meantime—and as bearing, perhaps, on this question of food, or the delivery of cooked food to the people by cart service—I shall be glad if you will allow me to refer to another matter I have at heart. It may help to throw light on the food question by illustrating certain principles as applied to other wants. You are aware that our object is to prevent waste, discomfort, loss of time—which is money—to methodise and systematise the operations for providing necessaries of life in cities and towns. Now one necessary of life—as well as food—is clothing. Both these things—food and clothing—will, if improved, conduce to power or heart (tone of health) to receive education. I have, then, a project which will cheaply conduce to cleanliness. It is this:—I propose to distribute, to the respectable poor, nets of strong thin cord, each net to be numbered by a marking-ink linen-marked number. These nets are to be of a convenient size for holding their clothes to be washed—to hold them loosely, just as a net holds potatoes. These nets are to be collected by waggons or light vans; each net being, of course, fastened up at the mouth. The nets of

clothes, including shirts or tablecloths, or other cloths, or curtains, &c., &c., will be placed in a suitable tank of cold water, and after a time will be subjected to slight pressure, or to running water, and then they will be put into a hollow wheel, like the revolving paddle-wheel of a steam-ship—a wheel some thirty feet in diameter, turned by steam power; some hundreds of nets of clothes can thus be agitated at one time, and with the introduction of steam, hot water, ley, or soda and soap, or other chemically ascertained suitable materials for dissolving whatever may adhere to, or, in other words, aid to clean the netted clothes. The netted clothes will then be placed in a cylindrical vessel, like the porter vat of a brewery, and will be subjected to considerable pressure, just as we press a sponge or flannel that we wish to clean. This pressure will press out dirty water, which will be allowed to run away; on releasing the piston or other mechanism used for pressure on the netted clothes (for, mind, the clothes never leave the nets) the netted clothes expand (just as a sponge or flannel when squeezed and liberated). This expanding will cause a vacuum, or partial vacuum, within the body or bulk of the squeezed materials, and this will allow the sucking in of clean ley or water and soap. This alternate pressing and releasing the pressure is maintained for some time. Lastly, the netted clothes will be agitated in a wheel with warm water, and then the water will be partially expelled by centrifugal action brought to bear by laws well understood, and applied to sugar as well as clothes in time past. Then the nets of clothes will be placed on wooden or galvanised-iron racks, in a drying-room, and subjected to a dry hot-air blast, which will expel the moisture, just as a hot east wind dries a quartern loaf. The netted clothes will now be delivered home according to the numbers or addresses on the several nets. I have discussed this matter with the poor; and although they knew they would get their things in a rough-dry state, they say that more than half the labour would be saved—that pulling out the clean things, and damping and mangling, would be as nothing to the labour, and toil, and inconvenience of washing the very dirty clothes the poorer classes have to put up with, under disadvantages of want of space, want of suitable implements, and conveniences of drying, &c. Of course all details and calculations I, or better engineers, can easily give. We should use the Cornish system, probably, of steam-power, heating our water, and so on, by steam, and so we should cause a vast saving of coal, and conduce (if ever so little) to the solution of one of the anxious (fuel) problems of the age.—I am, &c., WM. RIDDLE, C.E.

RODGER'S SHIPWRECK RAFT.—SIR, in reply to the communication from M. Chr. Cooke, which appeared in your publication of the 24th ult., relative to this invention of my late uncle, Capt. Wm. Rodger, R.N., I beg to mention that, in conversing with him on the subject, he told me the raft was quite a success. This is borne out with the result of the trials alongside her Majesty's ships *Northumberland* and *Queen Charlotte*. He, however, became absorbed in the improvement of anchors, and, much to his chagrin, the raft was entirely neglected. He was strongly of opinion no vessel should be put to sea without being supplied with drawings of one or two approved rafts; and that it was the duty of every captain to instruct his crew in the mode of putting them together, these drawings being to be had at the Custom-house for a nominal sum.—I am, &c., WILLIAM RODGER.

Manchester, February 4, 1868.

THE LATE MR. THURSTON THOMPSON.—SIR,—I find that a mistake has crept into my notice of the late Mr. Thurston Thompson, which was printed last week in the *Journal*. In the Exhibition of 1862, Mr. Le Neve Foster was the Superintendent of the Photographic Class, and not Mr. Thurston Thompson, who acted only as juror to that class.—I am, &c., THE WRITER OF THE NOTICE.

11th February, 1868.

MEETINGS FOR THE ENSUING WEEK.

- MON.....**Entomological, 7.
British Architects, 8.
Asiatic, 3.
Victoria Inst., 8.
Society of Engineers, 7½. Dr. Cullen, "On the Panama Railroad," and "On the Darien Ship Canal."
- TUES ...**Royal Inst., 3. Professor Tyndall, "On the Discoveries of Faraday."
Civil Engineers, 8. Mr. W. J. McAlpine, "On the Supporting Power of Piles; and on the Pneumatic Process of Driving Iron Columns as practised in America."
Statistical, 8. Mr. Hamilton, "On Trade with the Coloured Races of Africa;" and Major-Gen. Balfour, C.B., "On English and French Budgets."
Pathological, 8.
Anthropological, 8.
- WED ...**Society of Arts, 8. Mr. W. L. Scott, "On the Supply of Animal Food to Britain, and the means proposed for increasing it."
London Inst., 8½.
R. Society of Literature, 8½.
- THUR ...**Royal, 8½.
Antiquaries, 8½.
Linnæan, 8. Mr. Charles Darwin, "On the Character and Hybrid-like Nature of the Offspring from the illegitimate unions of Dimorphic and Trimorphic Plants."
Zoological, 4.
Chemical, 8. Mr. David Forbes, "On Chemical Geology."
Numismatic, 7.
R. Society Club, 6.
Society of Fine Arts, 8. Mr. J. A. Heraud, "On the Moral Aspects of Modern Poetry."
- FRI.....**Royal Inst., 8. Professor Tyndall, "On the Discoveries of Faraday."
Geological, 1. Annual Meeting.
Philological, 8.
- SATR.** Botanic, 3½.
Royal Inst., 3. Professor Roscoe, "On the Non-Metallic Elements."

Patents.

From Commissioners of Patents' Journal, February 7.

GRANTS OF PROVISIONAL PROTECTION.

- Axles, conveying rotatory motion to—258—K. J. Winslow.
Bedsteads—3631—B. Browne.
Bellows—299—R. J. Moser.
Bell pulls—269—A. C. M. Prince.
Belts, &c., swimming—263—C. Kilburn.
Biscuits, anti-scorbutic—290—W. H. Crispin.
Boats—135—W. Ayliffe.
Boilers—199—A. M. Clark.
Boilers—246—G. Allibon and A. Manbré.
Boot heels, tips for—286—E. Egersdorff.
Boots, &c., soles and heels of—236—T. Rowley.
Boots, &c., uniting together materials employed in the manufacture of—235—T. Cook.
Bottles, securing stoppers in—207—J. L. Davies.
Bottles, securing stoppers in—275—A. H. Thurgar.
Buildings, heating—237—W. Oram.
Canisters—252—J. and D. Storer.
Canteens—231—T. Goune.
Casks, &c.—250—G. Severn.
Concave surfaces, grinding and polishing—280—W. E. Newton.
Door knobs, &c.—241—J. C. Sanders.
Eggs, preserving—287—H. A. Bonneville.
Electrical train intercommunication, &c.—315—S. M. Martin and S. A. Varley.
Engines, locomotive—2907—W. B. Adams.
Excrement, removing—253—A. Small.
Fabrics and yarns, dressing—82—J. Tucker.
Fire-arms and cartridges—285—W. Tranter.
Fire-arms, breech-loading—201—J. Parsons.
Fire-arms, breech-loading, and ammunition—264—C. E. Brooman.
Fire-arms, &c., breech-loading—317—W. E. Newton.
Fortifications—266—T. Robinson.
Fruit trees, &c., protecting from frost, &c.—279—W. E. Rendle.
Furnaces—215—J. H. Johnson.
Furnaces, &c.—248—M. Tildesley and J. Bird.
Gas, regulating the supply of—247—S. Price.
Gas, &c., preparing oxide of iron for purifying—257—T. L. G. Bell.
Grain, cleaning and separating—295—T. Corbett.
Grain, &c., drying—228—S. Bennett.
Hat bodies, &c., machinery for forming—281—W. E. Newton.
Hats, bonnets, &c.—278—G. Kellogg.
Heat, utilizing—265—C. Ritchie.
Hides and skins, tanning—245—H. M. Ragland.
Letter-boxes, &c.—234—W. Dennis.
Lightning conductors—233—T. W. Gray.
Looms, ribbon—288—H. A. Bonneville.
Lubricators—195—R. and T. Carling.
Lubricators—255—A. M. Clark.
Madder, &c., liberating the colouring matter of—219—G. T. Bousfield.

- Malleable materials, shaping—191—J. Davies.
Matches—213—J. J. Long.
Metals, &c., melting and heating—271—J. H. Johnson.
Milling machinery—242—W. Bottomley.
Mills for grinding or crushing—226—W. Thompson and T. Stather.
Mirrors, hand—276—J. J. Hicks.
Mules and billies, self-acting—240—G. Kirk and W. Murray.
Needles, &c., scouring—313—W. Guise.
Oils, refining—297—J. Pearson and J. W. Young.
Optical illusions—267—R. G. Wells and D. Jones.
Organs—232—C. S. Barker.
Peat, &c., preparing—221—F. L. H. Danchell.
Pipes, cast-iron—311—D. Law and J. Wharrie.
Pipes, joining metallic—284—J. Roberts and J. Morgan.
Pipes, &c., cast-iron—233—D. Y. Stewart.
Post-offices, &c., travelling—256—C. Woodroffe.
Printing machines, lithographic—301—J. H. Johnson.
Pumps, &c., applying india-rubber to—193—W. Firth.
Railways—251—W. J. Jennings.
Rollers, elastic—268—E. J. W. Parnacott.
Sewing machines—305—C. A. McCurd.
Ships—136—J. Williamson.
Spray producers—223—P. Harrower and J. C. Stuart.
Stoves, gas—239—H. Hodge.
Stoves, &c.—274—A. Middlemist.
Tables, billiard—244—H. J. Dickinson.
Valves—230—R. Needham.
Valves—261—C. W. Dixon.
Velocipedes—309—S. B. Ardrey and S. Beckett.
Washers, &c.—283—F. N. Clerk.
Watches, &c., securing when carried in pockets—260—J. M. Lewis.
Water, apparatus for drawing off—277—T. Dickinson.
Water-closets—254—E. W. De Russett and R. F. Dale.
Wheat, drying—289—W. A. Gibbs.
Wood, &c., manufacturing articles from—229—E. Tomlinson.

INVENTIONS WITH COMPLETE SPECIFICATIONS FILED.

- Cotton, opening and cleaning—310—W. Tasker.
Powder magazine, fireproof—308—W. Snell.
Safes, fireproof—307—W. Snell.

From Commissioners of Patents' Journal, February 11.

PATENTS SEALED.

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| 2287. H. W. Withers. | 2332. T. Walker. |
| 2288. F. Wirth. | 2334. W. B. Leachman and J. Holroyd. |
| 2292. W. R. Dawson. | 2337. J. A. Jones, R. Howson, and J. Gjers. |
| 2293. F. J. Seymour. | 2341. G. Buxton and S. Bann. |
| 2300. J. Davenport and J. Kitson. | 2343. H. Bessemer. |
| 2305. R. Girdwood. | 2344. J. T. Way. |
| 2306. R. Edmondson. | 2347. T. Bushby. |
| 2311. A. Turner and W. Hemsley. | 2350. E. Ormerod. |
| 2315. J. Shanks and J. Cargill. | 2351. A. F. Baird. |
| 2403. J. Newark. | 2356. M. Henry. |
| 2455. W. B. Smith. | 262. A. Leveson. |
| 2572. A. M. Clark. | 2370. F. B. Houghton. |
| 2578. W. E. Newton. | 2372. M. Cahen. |
| 2594. R. Lowe and J. Taylor. | 2381. C. Reifert. |
| 2643. L. Lenzberg. | 2384. W. Burrow. |
| 2980. A. M. Clark. | 2388. A. Cohen. |
| 2220. J. H. Johnson. | 2389. J. Murgatroyd. |
| 2310. E. Courtin. | 2507. J. Howard and E. T. Bousfield. |
| 2318. W. T. Eley. | 3110. H. Allman & F. N. Gisborne. |
| 2320. H. T. Everist. | 3315. W. R. Lake. |
| 2322. J. J. Bright. | 3473. J. Durran. |
| 2323. G. and J. Pilling and F. Jennings. | |
| 2331. J. Fawcett. | |

PATENTS ON WHICH THE STAMP DUTY OF £50 HAS BEEN PAID.

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| 309. S. W. Wood. | 396. A. V. Newton. |
| 328. A. Steven. | 426. B. Thompson. |
| 330. A. A. Hulot. | 430. A. V. Newton. |
| 345. J. Lake. | 405. J. G. Tongue. |
| 360. R. A. Brooman. | 371. J. Dale. |
| 370. A. V. Newton. | 470. W. Robinson. |

PATENTS ON WHICH THE STAMP DUTY OF £100 HAS BEEN PAID.

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| 333. C. White. | 331. J. Higgins and T. S. Whitworth. |
| 315. T. and J. Blezard. | |

Registered Designs.

- 4924—Jan. 29th—An improved link for chain—Richard Foster, Wil-
lenhall.
4925—Feb. 1st—A vice or clamp—Cocker, Bros., Sheffield.
4926—Feb. 3rd—An involute scroll—David Lord, High-st., Horton,
Bradford, York.
4927—Feb. 4th—A combined foot-brush and scraper—James West
and Sons, Braintree, Essex.
4928—Feb. 7th—A blind pulley—Cox and Williams, River-street
Birmingham.